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STUDIES IN PHILIPPINE HETEROPTERA, I

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Since 1870, when Stål published his important paper Hemiptera Insularum Philippinarum, which includes three hundred twenty-one species of Heteroptera, only a small number of species belonging to this suborder has been added to the Philippine fauna in scattered papers by Lethierry, Reuter, Montandon, C. S. Banks, Distant, Breddin, Kirkaldy, Horváth, Martin, and myself. It is a great drawback that the Hemiptera collected by Prof. Carl Semper, on which Stål's work was based, bear no exact locality labels, not even the islands where they were found being indicated; we only know that most of his collections were made in Luzon, and that a smaller part of them is from Cebu and Mindanao.

During the last four years Prof. C. F. Baker has endeavored to bring together specimens of Philippine insects, and his efforts have proved a great success, of which the contents of this and many foreign journals give evidence. Professor Baker has kindly submitted to me for study his Philippine Heteroptera, excluding the Miridæ, Anthocoridæ, Nabididæ, and a few other smaller groups, which were entrusted to Doctor Poppius, who thus far has described many of the new Miridæ in the Annales Historico-Naturales Musei Nationalis Hungarici, the Wiener Entomologische Zeitung, and This Journal. A few of the new Pentatomidæ from Professor Baker's collection have been described by me in the Annales de la Société Entomologique de Belgique and the Annals and Magazine of Natural History. In the present paper, to be followed by others as soon as may be, I am giving descriptions principally of new Myodochidæ and

comments on little-known species of this family. The material of some myodochid genera rich in species (such as *Pamera*, etc.) still remains to be studied and will be reported upon in some future paper. The value of Professor Baker's collections is enhanced by the fact that the small forms have been by no means neglected, the most numerous and important additions to the Philippine heteropterous fauna belonging in fact to the small Myodochidæ and Tingidæ.

From the fact that Semper's collections were made during six years and from the material communicated by Professor Baker it is evident that the hemipterous fauna of the Philippine Islands is not nearly so rich and varied as that of New Guinea, Borneo, and Sumatra; and it must be borne in mind that the Hemiptera of these three islands are still to a great extent undescribed. When the extensive collections made by Biró and Loria in New Guinea and by Modigliani in Sumatra and the material stored in several museums have been fully worked out, the additions to the hemipterous fauna of these islands will be very considerable. Yet the Philippine fauna, judging from the Heteroptera alone, seems to be decidedly richer than that of Celebes and approximately equal to that of Java. When collections have been made in all the numerous islands composing the Philippine Archipelago, I suppose the number of Heteroptera until now found, principally by Semper and Baker, will be about trebled.

With the material now at hand I am under the impression that many species, especially among the endemic ones, are restricted to rather small areas. Certain species common in the Laguna district, near Manila, have not been found in the northern part of Luzon, and collections from Mindanao and Palawan are different both inter se and from those made in Luzon. Naturally, several species are more or less widely dispersed in the Indo-Malayan Region, and these convey the impression that the Philippine Archipelago as a whole has a hemipterous fauna more nearly related to that of Java than to that of Borneo and that many forms common to Borneo and Palawan have not reached Luzon. It is probable that the land bridge of yore, supposed to have united Borneo with Luzon, was disconnected between Palawan and Luzon long before the land connection between Mindanao and Java-Celebes had sunk. Among the Hemiptera very few forms point to the existence of an ancient land connection between Luzon and Formosa-China; and the few species previously known only from continental Asia (chiefly India and the Malay Peninsula), but later found

in the Philippines, have probably immigrated to the latter islands by way of Java or Borneo, where they are likely to be found.

Insect collections from the high mountains in the interior of Luzon, with their archaic mammalian fauna (showing Australian affinities) brought to light by Whitehead, and from the almost unknown, but probably no less interesting, mountain ranges in the interior of Mindanao are great desiderata; but such collections could be procured only by special expeditions involving great cost.

COREIDÆ

COREINÆ

HYGIARIA

Colpura denticollis sp. nov.

Oblong, brownish ochraceous, head, apical third and lateral borders of pronotum, connexivum, and male genital segment fuscous-black, corium dark castaneous, a vitta on each side of vertex touching the eye, a similar vitta on each side of underside of head, an oblong spot near middle of apical margin of corium, posterior border of connexival areas and apical callus of orificia luteous, membrane grayish ochraceous, the veins a little darker, venter with longitudinal blackish mottlings and in the anterior half with a blackish sublateral vitta in a line with the usual dull black spots of the last three segments; antennæ fuscous-black, more than apical half of last joint luteous; rostrum brownish ochraceous; legs fuscous, trochanters, extreme base of femora, a ring on basal half of tibiæ, and some mottlings to fore tibiæ and to hind femora luteous; punctate, the punctures each bearing a small, narrow yellowish scale, the punctation of the head very fine and superficial. Head slightly longer than broad, first joint of antennæ as long as head, second about one-third longer than first, bucculæ with the truncate anterior margin and the slightly rounded inferior margin forming a right angle, rostrum reaching middle of metasternum, first joint not quite reaching base of head, second as long as first, third one-third shorter than second and equal to fourth. Pronotum moderately declivous, not convex, without a distinct transverse impression, across the rather narrowly rounded, scarcely prominent, humeral angles, not quite two and a half times broader than at apex and about one-third broader than the length of the lateral margin, the apical angles produced forward in a triangular tooth about as long as half the breadth of the eye, the lateral margins almost straight, only behind the middle broadly and very

slightly sinuate, narrowly depressed, still narrower toward the humeral angles but also visible throughout from above, the basal margin broadly and very slightly sinuate. Scutellum perfectly plane. Elytra reaching apex of abdomen. Abdomen with the apical angles of the fifth segment very slightly prominent, venter not sulcated, male genital segment impressed at the middle of the apical margin, which is rounded, with a shallow arcuate sinuosity in the center (much as in *C. hebeticollis* Bredd.). Femora beneath with a few minute teeth in the apical half.

Length, male, 10.5 millimeters.

LUZON, Laguna, Mount Banahao.

Of one antenna only the first two joints remain. The other antenna is abnormally developed, the second and third joints being fused into one, which is thicker and somewhat longer than the normal second joint; the robust fourth joint is about half the length of the first, but is possibly somewhat different in normal antennæ.

I place this species provisionally in Breddin's subgenus *Microcolpura* near *Colpura tuberculicollis* Bredd., from which it differs in the structure of the male genital segment and in several other details. However, as the single entire antenna is abnormal and the female is unknown, it is not impossible that it will prove to belong to *Sciophyrus* Stål or to *Xanthocolpura* Bredd.[1] It agrees well with *Vittorius* Dist. in all essential points, but whether *Vittorius* is a valid genus is impossible to know as Distant, although he had a female specimen before him, has not described the genital characters of this sex. In this difficult group it is absolutely necessary to know the genital characters.[2]

Professor Baker has found *Colpura obscuricornis* Stål on Mount Maquiling and *C. maculipes* Stål on this mountain and on Mount Banahao. Both these species are very variable in the color of the legs, which are sometimes almost entirely fuscous.

Caracolpura Bredd. (type, *C. planiceps* Bredd.), which Breddin regarded as a subgenus of *Colpura*, seems to me to be generically quite distinct from it by the structure of the head, which is broader than long, quite plane above, and distinctly narrowed

[1] In my supplement to Lethierry and Severin's Catalogue of the Coreidæ I have indicated *Xanthocolpura venosa* Bredd. as described from Borneo, but its habitat is Balabac Island, about 32 kilometers (about 20 miles) south of Palawan, which politically belongs to the Philippines.

[2] Since this remark was written Kiritchenko has shown, after examination of specimens of *Vittorius adspersus* Dist., that *Vittorius* Dist. is a straight synonym of *Colpura* Bergr.

from the eyes to the apex of the antenniferous tubercles. It forms a transition to the genus *Agathyrna* Stål.

Homalocolpura sorbax sp. nov.

Oblong-ovate, shiny beneath (including the ventral glandular spots), much less so above, black, corium fuscous-black, anterior end of bucculæ, apex of scutellum, a small spot near middle of apical margin of corium, and apical margin of fourth and fifth ventral segments luteous, an interiorly abbreviated apical fascia to the connexival areas above and beneath fulvous, membrane black, orificia brownish; antennæ fuscous-black, third joint a little paler, base of third and the whole fourth joint luteous; rostrum luteous; legs piceous-black, coxæ and tibiæ somewhat paler, trochanters, base of femora, and the tarsi luteous, last joint of the latter infuscated; moderately densely punctate, excluding head, the subapical pronotal transverse callosity, and the connexivum above and beneath; the whole body clothed with a very short upright pile visible only if the insect is viewed in profile, but somewhat longer and semierect on the venter, the short hairs on the postocular tubercles and on the lateral margins of the pronotum stiffer and visible also from above. Head one-half longer than broad and almost as long as pronotum, transversely and longitudinally convex, sparsely and finely punctate, slightly widening from eyes to apex of antenniferous tubercles, this distance shorter than anteantennal part of head, eyes larger and more prominent than the postocular tubercles, antennæ half the length of the body, rather slender, first joint about half the length of head, passing apex of head by less than half its length, second joint a little longer than first and a little shorter than third, fourth longer than third, subcylindrical, rostrum reaching a little beyond apex of abdomen. Pronotum a little declivous, about one-half broader than long, at apex a little more than half the basal width, near apex with a rather strongly convex, anteriorly almost perpendicular, transverse callosity almost reaching the lateral margins, terminated behind by a transverse impression and in the middle of its posterior half subquadrately impressed, the apical angles right-angled, projecting a little forward, the lateral margins straight, very narrowly carinate, the basal margin somewhat sinuated in front of the scutellum, which is slightly convex in its basal half. Elytra of female reaching base of first genital segment. Abdomen with the apical angles of the fifth segment very slightly prominent, venter deeply grooved from its base to apex of fourth segment, basal plica of

sixth female segment slightly passing the center of the segment, obtuse-angled at apex. Femora beneath with a longitudinal groove terminated on each side by a row of spines, which in the front femora is extended to the base, but in the mid and posterior femora only reaches the middle, the spines gradually decreasing in size toward the base.

Length, female, 11.5 millimeters; humeral width, 3.5.

LUZON, Laguna, Mount Banahao.

This species is nearest to *H. sugax* Bredd., but is broader and is readily distinguished by several structural characters. The genus *Homalocolpura* Bredd. is new to the Philippine Islands.

ALYDINÆ

LEPTOCORIXARIA [3]

Genus **DICORYMBUS** novum

Body oblong, about or little more than four times longer than broad. Head horizontal, anteocular part between eyes and antennæ and postocular part parallel-sided, a small fovea in front of each ocellus and a short median longitudinal impression somewhat behind clypeus, the robust convex juga shortly conically produced beyond clypeus, their inner margins almost meeting before clypeus, then strongly divaricate, forming a right-angled or obtuse-angled sinuosity, apical half of clypeus vertical, strongly widening at apex, eyes moderately prominent, seen from above longer than broad, ocelli placed almost on a line with posterior angles of eyes and as far from them as from one another, bucculæ rather high, their anterior margin subtruncate, the inferior apical angle subdentate, antennæ about as long as the body, first joint somewhat shorter than head and pronotum together, cylindrical but elongately clavate at apex, second and third joints linear, third shorter than second, fourth much the shortest, rostrum reaching or a little passing base of venter, first joint reaching base of head, second slightly shorter than first and much shorter than third and fourth together, fourth somewhat longer than third. Pronotum slightly sloping from the

[3] With the Leptocorixaria I unite Stål's division Micrelytraria. Stål separated them on account of the somewhat differently constructed rostrum; but this character is of little importance and not constant, there being intermediate forms that might be referred as well to one as to the other of these divisions. Distant (Fauna Brit: India, Rhynch., 1, 405) has removed the division Stenocephalaria from the subfamily Alydinæ, regarding it as a division of the Pseudophloeinæ, but he gives no reasons for this absurd innovation.

interhumeral line to a little beyond middle, then almost horizontal, a little broader than long, at apex little more than half the humeral width, the lateral angles armed with a tooth or short spine, the straight posterolateral margins forming an obtuse angle with the truncate basal margin. Scutellum longer than broad, acute at apex. Elytra a little shorter than abdomen, commissure of clavus a little shorter than scutellum, apical margin of corium broadly and gently rounded toward the inner apical angle, the outer apical part moderately produced, reaching somewhat beyond middle of membrane. Mesosternum longitudinally grooved in the middle. Abdomen in the male with the last dorsal segment roundly produced backward and with a sinuousity between the projecting part and the last connexival segment, the apical angle of which is obtuse; in the female with the last dorsal segment broadly and slightly sinuate posteriorly, apical angle of last connexival segment produced, subacute at apex; spiracles placed much nearer to the basal than to the apical margin; sixth female ventral segment without a basal plica, but with a percurrent median fissure, the apical margin trisinuate, the median sinuosity rather deep and subacutely angular, the lateral ones broad and shallow; the two female dorsal genital segments broadly and slightly sinuate at apex. Legs moderately short, femora unarmed, the front pair, when stretched forward, passing apex of head by less then half the length, the hind pair about reaching middle of fifth ventral segment, all tibiæ sulcated above, first joint of hind tarsi somewhat longer than the other two together.

A rather isolated genus coming nearest to *Mutusca* Stål; but abundantly distinct by the much broader and more robust body; quite differently constructed juga, antennæ, bucculæ, pronotum, and sixth female ventral segment; more separated and more forwardly placed ocelli; longer rostrum and legs; less produced outer apical part of corium; different position of the spiracles; sulcated tibiæ; and shorter metatarsus of hind legs.

Type of the genus, *Dicorymbus nigridens* sp. nov.

Dicorymbus nigridens sp. nov.

Lurid ochraceous, rather coarsely and densely brown-punctured, median part of mesosternum impunctate with two narrow punctate vittæ, the tooth of the humeral angles black, apex of scutellum and a spot at apical margin of corium in the cell near the inner apical angle whitish and impunctate, a spot at apical angles of connexival segments (much larger on the last segment), two spots at base and one at apical angles of first female dorsal genital segment (sometimes confluent), and

second female dorsal genital segment, at least at the sides, fuscous-black, venter often of a dark greenish hue and probably always green in living specimens; antennæ, rostrum, and legs concolorous with the body, the first three antennal joints and femora densely and very finely dotted with brown, apex of second and third antennal joints fuscous, fourth joint whitish with a greenish tint (probably pale green in the live insect), tibiæ with three narrow fuscous annulations, the nethermost of which is sometimes obliterated. Head slightly longer than broad, second joint of antennæ subequal in length to first, fourth half the length of third and a little narrower than the clavate part of the first. Pronotum a little longer than head, lateral margins almost straight, sinuate only before the humeral tooth. Abdomen with the apical angles of the fifth segment a little prominent, male genital segment trituberculate at apex, the median tubercle larger and more prominent than the lateral ones, the margin arcuately sinuate on each side between the tubercles.

Length, male, 14.5 millimeters; female, 14.8 to 16.2.

LUZON, Laguna, Mount Maquiling and Paete.

This species does not seem to be rare in the first-named locality.

Genus **XENOCERAEA** novum

Body elongate, gradually widening backward to beyond middle of abdomen. Head horizontal, anteocular part between eyes and antennæ and postocular part parallel-sided, a short longitudinal impression behind clypeus, the slender juga longly spinously produced beyond clypeus, eyes slightly prominent, seen from above much longer than broad, the small ocelli placed a little behind the level of the posterior angles of the eyes and as far from them as from one another, bucculæ rather short and low, somewhat longer than high, triangular, their anterior and inferior margins straight, antennæ somewhat shorter than the body, first joint a little longer than the head, robust, triquetrous, turning one edge downward, one upward, and one inward, second joint subcylindrical, but with the apical third compressedly clavate, third more slender and much shorter than second, with the apex incrassate and obliquely truncate, fourth much the shortest, fusiform; rostrum reaching middle of metasternum, first joint not reaching base of head, second a little shorter than first and much shorter than the last two together, fourth somewhat longer than third and subequal to second. Pronotum slightly sloping, somewhat longer than broad,

across the humeri at least one-third broader than at apex, apical margin arcuately sinuate, apical angles dentately projecting forward, lateral margins straight, humeral angles not prominent, posterolateral margins a little longer than the slightly subsinuate basal margin with which they form an obtuse angle. Scutellum narrow, longer than broad. Elytra somewhat shorter than abdomen, commissure of clavus much longer than scutellum, apical margin of corium broadly rounded in its interior half, not sinuate toward the apical angle, which reaches about middle of membrane and is narrowly rounded, veins of membrane furcate and united by cross veins here and there. Meso- and metasternum longitudinally grooved in the middle; apical angles of metapleura acute. Abdomen in the female with the apical margin of the last segment straight, the apical angles somewhat produced backward but almost right-angled; spiracles placed before middle of segments; sixth ventral segment with a short triangular basal plica and a fissure behind the plica, the apical margin angularly incised behind the fissure. Legs short, femora unarmed, the front pair when stretched forward reaching a little beyond apex of head, the hind pair slightly passing middle of fourth ventral segment, tibiæ (particularly the fore and hind ones) shorter than femora, not distinctly sulcate above, first joint of hind tarsi as long as the other two together.

Somewhat related to the preceding genus, but with quite differently constructed juga, antennæ, and pronotum, longer claval commissure, less produced apical angle of corium, and shorter legs.

Type of the genus, *Xenoceraea bakeri* sp. nov.

Xenoceraea bakeri sp. nov.

Dull testaceous (including antennæ, rostrum, and legs), last antennal joint and a small spot at humeral angles of pronotum fuscous, extreme apex of clavi, apical margin of acetabula, a small spot on propleura and mesopleura, a few small interior spots on metapleura, apical angles of abdominal segments, a diffuse subapical fascia to last dorsal segment, and irregular speckles on the sides of venter arranged in two or three longitudinal rows blackish; punctate with pale brown, very finely so on head and pronotal cicatrical areas; coarsely, thickly, and seriately punctate on corium and clavus; puncturation of connexivum irregular and fuscous. Head much longer than broad, second antennal joint a little longer than first, fourth one-third the length of third. Pronotum in the middle slightly shorter

than head. Elytra (of female) reaching a little beyond base of last segment. Second dorsal genital segment of female obtuse-angularly sinuate at apex.

Length, female, 14 to 14.5 millimeters.

MINDANAO, Iligan and Davao.

Marcius formicinus sp. nov.

Black (including antennæ, rostrum, and legs); base of first and a subbasal annulation of fourth antennal joint, the depressed lateral parts of the pronotal basal margin, a basal vitta, an antemedian subtriangular spot, a postmedian fascia (at the base of the narrow produced part) and the interior half of apical margin of corium, posterior margin of mesopleura, a triangular spot occupying posterior angle of metapleura, a spot on middle acetabula, an oblong lateral spot at base of third, and a much smaller subquadrate lateral spot at base of fourth and fifth abdominal segments white; a lateral spot on head at inferior margin of eyes, a longitudinal line between ocelli, a basal streak to clavus, and apical border of prosternum obscurely luteous; membrane fuscous, tinted with violet, somewhat less than its apical half hyaline, trochanters dark ferruginous; head, spines of anterior pronotal lobe, posterior pronotal lobe (including spines), scutellar spine, pleura, the first three antennal joints, underside of rostrum, and legs sparsely, erectly, and rather longly palely pilose. Head longer than pronotum and twice longer than broad (excluding the strongly prominent eyes), impunctate, lateral margins bluntly carinate between eyes and antenniferous tubercles, slightly rounded between eyes and the short subparallel neck, anteocular part twice longer than postocular part, distance between antennæ and apex of clypeus twice longer than that between antennæ and eyes, first joint of antennæ one-third shorter than head, second a little longer than first and third, which are subequal in length, fourth slightly longer than second and third combined, rostrum reaching a little beyond base of venter, first joint as long as head, second equal in length to first and nearly twice the length of the last two joints united, fourth three times longer than third. Pronotum (excluding humeral spines) slightly narrower than head (including eyes) and almost as broad as long, anterior lobe impunctate apart from scattered points near the apical margin, with two stout and rather long, divergent, conical, apically attenuated spines; posterior lobe twice longer than anterior lobe, rather thickly and coarsely punctate, basal margin depressed in front of elytra, humeral spines as long as the anterior spines, directed obliquely

outward and upward and slightly recurved. Scutellum remotely punctate, at apex with an upright spine, which is considerably longer than the pronotal spines. Corium seriately punctate, its inner apical area membranous, the narrow, produced, outer apical part reaching but little beyond middle of membrane, the latter with very distinct veins arising from a basal vein, which is almost contiguous to the apical margin of the corium. Pleura very sparingly punctured, except the thickly and coarsely punctate posterior half of the propleura. Abdomen oblong-oval, but with the first two segments narrower and subparallel, venter with an extremely short, dusty, pale pubescence. Legs slender, hind femora a little surpassing apex of abdomen.

Length, male, 14 millimeters.

LUZON, Laguna, Mount Maquiling.

In some characters this species is intermediate between *M. generosus* Stål and *quinquespinus* Stål, but is very distinct from both, and by the less-produced apical part of the corium it forms a transition to the genus *Dulichius*. It much resembles a big ant and this resemblance is probably still more striking in the living insect. When a monograph of this group is undertaken a new genus will possibly be required for this species and another for *M. quinquespinus*, as they differ in several important points from the type of the genus as well as inter se.

MYODOCHIDÆ

ASTACOPINÆ

Astacops caviceps sp. nov.

Fulvous; clypeus (at least at apex), a broad median vitta to vertex (posteriorly scarcely reaching beyond the ocelli and sometimes entirely wanting), posterior lobe of pronotum, and corium (including clavus) black, with a slight greenish luster; membrane fuscous, antennæ black, base of first joint fulvous, rostrum piceous, legs testaceous, the hind pair (or at least its tibiæ and tarsi) more or less infuscated. Head a little broader than humeral width of pronotum, vertex with a longitudinal median groove as broad as the space between the ocelli, ocular peduncles directed outward and slightly upward and backward, ocelli a little more distant from the eyes than from each other, second and third antennal joints subequal in length, fourth one-third longer than third, rostrum reaching or a little passing hind coxæ. Pronotum declivous, a little narrowed from the base to apex, the transverse impression well marked, lateral margins a little sinuate, anterior lobe with two strongly divergent levigate

lines beginning not far from each other at the base of the lobe and running to the apical angles, posterior lobe about two times longer than anterior lobe, rather coarsely and sparsely punctate and with a transverse impression at the middle of its anterior margin. Scutellum with a T-shaped elevation. Elytra a little passing apex of abdomen; corium and clavus rugulose, clothed with a short, sericeous, whitish pubescence. Abdomen as broad as the closed elytra, subparallel from its base to apex of fourth segment, beneath in the middle rather longly, erectly pilose, especially in its apical half, male genital segment transversely impressed before the rounded apical margin. First joint of hind tarsi two-thirds longer than the other joints together.

Length (exclusive of membrane), male, 6 to 6.3 millimeters.

LUZON, Los Baños, Mount Maquiling; Tayabas, Malinao.

Somewhat related to *A. militaris* Dist. and A. *gibbicollis* Horv. and intermediate in size between these two species; it differs from both by the much longer metatarsus of the hind legs and by the color markings, from *gibbicollis* also by shorter and differently sculptured anterior lobe and less densely punctate posterior lobe of the pronotum.

Astacops lividiventris sp. nov.

Black, finely palely pubescent, head (excluding the black clypeus and a board median fuscous vitta to vertex), a more or less distinct transverse spot on each side of the pronotal apical margin near the angles, and pectus rusty testaceous; abdomen pale livid subglaucous, membrane fuscous, antennæ fuscous-black, rostrum piceous, legs pale testaceous, tibiæ and tarsi infuscated. Head slightly broader than humeral width of pronotum, vertex with a longitudinal median groove much narrower than the fuscous vitta in which it is placed, this groove terminated on each side by a blunt elevation, ocular peduncles short, directed outward, ocelli a little more distant from each other than from the eyes, second and third joints of antennæ equal in length, fourth conspicuously longer than third, rostrum reaching hind coxæ. Pronotum a little declivous (anterior lobe very slightly so), a little narrowed from base to apex, the transverse impression rather shallow, lateral margins very slightly sinuate, anterior lobe with a curved transverse callosity ending at the apical margin near the angles, the callosity provided with an impressed line interrupted in the middle, posterior lobe about two and a half times longer than the anterior one, sparsely but rather coarsely punctate, especially near the middle. Scutellum with a T-shaped carination. Elytra a little

passing apex of abdomen, corium and clavus finely rugulose. Abdomen as broad as the closed elytra, parallel from its base to beyond the middle. First joint of hind tarsi slightly longer than the other joints together.

Length (exclusive of membrane), male, 4 millimeters; female, 4.6.

PALAWAN, Puerto Princesa.

Allied to *A. borneensis* Dist., but smaller, with more separated ocelli, shorter anterior pronotal lobe, and different coloring, especially of the underside and the legs.

Astacops fulviventris sp. nov.

Black, finely palely pubescent, membrane fuscous, anterior margin of prosternum and margins of all acetabula grayish white, metasternal orificia and abdomen fulvous; antennæ, rostrum, and legs black; trochanters testaceous. Head very slightly narrower than humeral width of pronotum, vertex with a longitudinal median groove much narrower than the space between the ocelli and terminated on each side by a small oblong tubercle, ocular peduncles short, directed outward, ocelli very slightly more distant from each other than from the eyes, antennæ constructed as in *A. lividiventris*, rostrum about reaching hind coxæ. Pronotum moderately declivous, with both lobes in the same plane, somewhat narrowed from base to apex, the transverse impression rather shallow, lateral margins a little sinuate in the middle, anterior lobe with two impressed, strongly divergent, levigate lines beginning not far from each other near the base of the lobe and running toward the apical angles, but not reaching them, posterior lobe three times longer than the anterior one, sparsely but rather coarsely punctate. Scutellum, elytra, abdomen, and metatarsus of hind legs as in *A. lividiventris*.

Length (exclusive of membrane), female, 4.8 to 4.9 millimeters.

LUZON, Laguna, Los Baños.

Allied to the preceding species, but with somewhat less separated ocelli, differently constructed pronotum, and different coloration, especially of the underside and the legs.

Astacops ruficollis Banks.

Scopiastes ruficollis BANKS, Phil. Journ. Sci., Sec. A (1909), 4, 571, Pl. II, fig. 2.

LUZON, Tayabas, Malinao.

This species, originally described from Palawan, has the head distinctly broader than base of pronotum, vertex longitudinally impressed in the middle, ocular peduncles directed outward and

a little upward, ocelli two-thirds more distant from eyes than from each other, pronotum declivous (anterior lobe less so), very slightly narrowed from base to apex with sinuate lateral margins and well-marked transverse impression, its posterior lobe one-half longer than the anterior one, coarsely and thickly punctate, abdomen parallel from its base to beyond middle, and first joint of hind tarsi scarcely longer than the other two joints together. Banks describes the meso- and metapleura as coralline, but they are fuscous, whereas the propleura are red, quite as should be expected, species with a pale pronotum also having pale propleura.

The genera *Astacops* Boisd. and *Scopiastes* Stål were united by Breddin, but Horváth[4] has recently again separated them, on the basis of characters other than those used by Stål. They could in fact be kept apart, should the characters relied on by Horváth really hold good, but this is not the case. Boisduval founded his genus on two new species, *australis* and *doryca*. The former, which was fixed as type by Distant, does not seem to have been rediscovered since it was described, but I suspect it is a *Scopiastes* (in Horváth's sense). *Astacops doryca* is unknown to me, but as Stål says of it "caput basi thoracis vix angustius," it seems also to be a *Scopiastes* (Horv.). Since the founding of the genus numerous other species have been described, and some of them have been placed in *Astacops*, some in *Scopiastes;* but among them there are several species that are manifestly intermediate between these genera, either as understood by Stål or by Horváth. As all must agree that the characters given by Stål cannot be used to separate them, we have in the following examples to take into account only the characters given by Horváth:

Astacops gracilis Bredd.: Head as in *Scopiastes*, tarsi as in *Astacops*, pronotum intermediate.

Astacops laticeps Bredd. and *lividiventris* Bergr.: Head, form of pronotum, and tarsi as in *Scopiastes*, mutual length of pronotal lobes as in *Astacops*.

Astacops caviceps Bergr.: Head and pronotum as in *Scopiastes*, tarsi as in *Astacops*.

Astacops fulviventris Bergr.: Head and tarsi as in *Scopiastes*, mutual length of pronotal lobes as in *Astacops*, form of pronotum intermediate.

The genus *Acthalotus* Stål was separated from *Astacops* and *Scopiastes* by the character "ocellis inter se quam ab oculis

[4] *Ann. Mus. Nat. Hung.* (1914), 628.

circiter duplo longius remotis," but the distance between the ocelli was probably somewhat exaggerated, as Stål in his original description of the type says that the ocelli are "inter se quam ab oculis paullo longius remoti." At any rate none of the species of *Aethalotus* described since have the ocelli so widely separated as in Stål's generic diagnosis they are said to be in the typical species. *Astacops* (*Abgarus*[5]) *typica* Dist. is said to have the ocelli "between the eyes and much nearer to their insertion than to each other," according to which character it would be an *Aethalotus*, but from the figure it is clear that the ocelli are much more separated from the eyes than from each other and that Distant has regarded the peduncle bearing the eye as belonging to the eye itself! It is apparently owing to the same mistake that he placed his species *borneensis* in *Aethalotus*, although the ocelli, as the figure shows, are more remote from the eyes than from each other. *Aethalotus* could be separated from *Astacops* (inclusive of *Scopiastes*) solely by the distance between the ocelli being greater than that between them and the eyes, but the species in which these distances are equal would in any case be intermediate forms. The distance between the ocelli as compared with that between them and the eyes generally depends on the length of the ocular peduncle in the different species and is a purely specific character. Owing to the manifest connecting links, these three "genera" must, in my opinion, be united. By their fusion *A. nigripes* Dist. becomes a preoccupied name; I propose for this species the name **A. melampus.**

Aspilocoryphus mendicus Fabr.

LUZON, Benguet, Baguio.

This and the following species were hitherto known only from India.

Lygaeosoma bipunctata Dall.

LUZON, Benguet, Baguio.

On this and two other species Reuter founded the genus *Melanotelus*, but there are no reliable characters separating it from *Lygaeosoma*. In many genera of this subfamily the posterior margin of the metapleura is more or less oblique and

[5] The genus *Abgarus* Dist. was founded on a fictitious character, brought on by an injury inflicted on the type, the head having been forced out of its natural position so that the neck only touches the upper apical margin of the prothorax; this is quite obvious from the profile-figure of the specimen.

more or less straight or sinuate, and the posterior metapleural angle more or less rounded or angular even in the same species.

CYMINÆ

Genus **RHIOBIA** novum

Head subequilaterally triangular, clypeus longer than juga, vertex somewhat less than three times broader than an eye, ocelli over two times more distant from one another than from eyes, antenniferous tubercles truncate at apex, unarmed, first joint of antennæ much shorter than any of the other joints, second and third joints slender and linear, fourth a little longer than third, bucculæ low but percurrent, only their shortly rounded anterior ends visible from the side, the remaining parts of them, when viewed from the side, hidden by an oblong longitudinal callosity placed between the bucculæ and the eyes, rostrum passing hind coxæ, first joint extended beyond anterior margin of prosternum. Pronotum three times broader across the humeri than at apex; laterally slightly constricted before the middle, divided into two lobes by a transverse impression, the anterior lobe with rounded sides but with a depressed (though transversely convex) parallel-sided apical collar, posterior part of the lobe with a transverse callosity, which immediately within the lateral margins is curved backward and then inward, forming a hook, the posterior lobe two times as long as the anterior one, with straight sides and rounded humeral angles, the broadly rounded basal margin narrowly depressed with the extreme margin a little elevated, pronotal lateral margins bluntly carinate, the carina forming a continuation of the narrowly elevated basal margin, suddenly discontinued a little behind the apical angles, leaving the sides of the collar vertically rounded, immarginate. Scutellum a little broader than long, near the base with a transverse, obtuse-angled, linear callosity emitting a ridge from its middle to the apex. Elytra hyaline, their exterior margins parallel near the base, then a little roundly ampliate, clavus with three rows of punctures, the outermost row placed in an impressed line, the commissure half the length of the scutellum, corium impunctate excepting two rows of punctures, one near the claval suture continued more or less distinctly along the apical margin, the other at the outer margin of the radial vein, the latter row only in its apical part visible from above, the remainder of it visible only from the side, radial vein gradually strongly deviating from costal margin, joining apical margin near or not far from its

middle, the radial sector starting from the radius far before its middle, then running parallel to it, ending abruptly a little behind middle of corium, costal border somewhat reflected, apical margin straight, as long as claval suture. Orificia directed obliquely outward and forward, oval, callosely margined, and subauriculate. Posterior border of the metapleura laminately depressed, strongly widening outward, apical angle more or less rounded. Abdomen more or less strongly and transversely convex beneath, somewhat compressed, much more so in the female, a little (male), or somewhat more (female), passing apical angle of corium; fourth and fifth ventral segments with two dark sublateral glandular spots, one behind the other; last male dorsal segment roundly produced in the middle. Fore femora not incrassated, unarmed. First joint of hind tarsi a little longer than the others united.

Type of the genus, *Rhiobia praeceps* sp. nov.

This genus is allied to *Ischnorhynchus* Fieb., from which it differs principally by the structure of the pronotum and scutellum.

In the normal position of the female ventral segments in this and some other genera the middle of the fourth and fifth segments is not visible, being drawn in under the third segment so that the sixth reaches the apical margin of the third and is extended forward beyond the middle of the venter. But the female in these genera is capable of pushing out the fourth and fifth segments, and if it happens to die at the moment they are pushed out (as is the case in one of the females before me), these segments remain fully visible also in the middle, and the sixth segment takes a much more acclivous position, not extending to the middle of the venter. The characters taken from the length and position of the last three female ventral segments ought, therefore, to be used with some caution.

Rhiobia praeceps sp. nov.

Glabrous, dull, stramineous, the punctation fuscous, meso- and metapleura and venter, and sometimes pronotum, more or less tinged with ferruginous, a small humeral spot and a small basal median spot to pronotum fuscous, corium almost colorless but a subbasal spot, a rather large, triangular, anteriorly transversely truncate spot occupying the apical angle (except the extreme apex), the posterior part of the radial vein and the apical margin (except a rather broad breach in the interior half) dark brown, the interior margin and commissure of the clavus and the median fissure of the sixth female ventral segment blackish, a

fuliginous ventral vitta on each side extended from middle of third to apical margin of fifth segment, halfway between the middle and the lateral margins, the laminately depressed posterior border of the metapleura, the apical border of the last male dorsal segment and often also a subquadrate lateral spot to the ventral segments 2 to 5 and the sides of the last ventral segments whitish; tergum of abdomen with more or less distinct fasciate or macular fuscous markings or suffused with this color, the last segment unicolorous except a fuscous basal spot; antennæ and rostrum pale testaceous, second and third antennal joints at apex and fourth at base (narrowly) and at apex (broadly) dark fuscous, last two rostral joints piceous; legs stramineous, and annulation before apex of femora and extreme apex of tibiæ and of tarsal joints fuscous. Head strongly declivous (45°), immersed to the eyes, irregularly punctulate above, clypeus impunctate, the callosity between the bucculæ and eyes oblique, first joint of antennæ reaching a little beyond apex of head, second somewhat more than twice the length of first and as long as the distance between the inner margins of the eyes, third subequal to second or a little shorter, fourth sublinear but conspicuously thicker than the two preceding ones and even slightly thicker than the first, rostrum a little surpassing base of venter, first joint not reaching middle of prosternum. Pronotum rather densely punctate, the transverse callosity and three more or less distinct vittæ on each side of the posterior lobe remotely punctate; the apical margin of the collar, the lateral hooked parts of the transverse callosity, and a median line to the posterior lobe impunctate; the posterior lobe longitudinally convex, its anterior part and the anterior lobe (except the collar) lying in the same strongly declivous plane as the head, the collar much less slanting, forming an angle with the posterior part of the anterior lobe. Scutellum thickly punctate, the almost T-shaped callosity impunctate. Pectus rather thickly punctate; anterior margin of prosternum, a spot on propleuræ and mesopleuræ, the posterior laminate border of the metapleuræ, and the acetabula impunctate. Abdomen impunctate; male genital segment near the base with a small tubercle and behind this with a narrow, curved, transverse impression. First joint of hind tarsi scarcely longer than the other two together.

Length, male, 3.5 millimeters, inclusive of membrane, 4.5; female, 3.9 to 4.5, inclusive of membrane, 4.5 to 5.2.

LUZON, Laguna, Mount Maquiling and Mount Banahao.

Rhiobia longirostris sp. nov.

Glabrous, dull, coloration as in the preceding species with the following exceptions: The small fuscous median basal spot to pronotum and subbasal spot to corium wanting, the radial vein and its sector almost entirely fuscous, the anterior margin of the brown triangular spot at apical angle of corium oblique, the last two dorsal segments pale with a median fuscous vitta and brownish sides, venter brown with the apical margin of segments 3 to 5 and the whole sixth segment pale; antennæ pale testaceous, the last joint dark fuscous, rostrum colored as in *R. praeceps,* legs stramineous, fore and middle femora finely dotted with brown, an annulation before apex of hind femora and extreme apex of all tibiæ brown, last tarsal joint black; punctation as in *R. praeceps,* but the impunctate spot on the propleura and the mesopleura lacking. Head porrect, not declivous, but with the upper side longitudinally a little convex, the callosity between the bucculæ and eyes straight, longitudinal, first joint of antennæ not quite reaching apex of head, second four times longer than first and one-half longer than width of head across eyes, third subequal to second, fourth linear, distinctly thicker than the two preceding ones, but not thicker than the first, rostrum extended far beyond the center of the venter, its first joint reaching middle of prosternum. Pronotum with the posterior lobe longitudinally somewhat convex, the anterior part of the lobe moderately declivous, the anterior lobe, including the collar, very slightly declivous. Abdomen impunctate, beneath less convex and compressed than in *R. praeceps.* First joint of hind tarsi a little longer than the other two together.

Length, female, 5 millimeters, inclusive of membrane, 6.

LUZON, Laguna, Mount Banahao.

Differs from the preceding species (apart from other characters) by the much less declivous head and pronotum, the shorter first antennal joint, and the much longer rostrum; but it is unquestionably congeneric.

Genus **RHIOPHILA** novum

Body oval, its greatest height on a line with the pronotal humeral angles, from which point it is strongly, convexly declivous to the apex of the head and distinctly though much less sloping to the apex of the abdomen. Head viewed from below or straight from above, nearly three times broader than long, viewed obliquely from before and above, transversely rhomboidal; vertex flattened, two and a half times broader than an eye, clypeus a little longer then juga, eyes transverse and

strongly prominent but not large, their posterior margins seen from above straight, not quite touching the pronotal apical angles, ocelli much more distant from one another than from eyes, antenniferous tubercles not visible from above, almost perpendicular, antennæ inserted below the eyes, first joint very slightly passing apex of head, second and third joints slender, but a little incrassated at apex, fourth thickened, as long as the two preceding joints together, underside of head on each side with an oblique, more transversal than longitudinal tubercle somewhat inside the eyes, bucculæ very short, posteriorly not passing the insertion of the antennæ; rostrum a little passing base of venter, first joint reaching middle of prosternum. Pronotum neither transversely impressed nor laterally constricted, across the humeri less than three times wider than at apex, the space between the very narrow, smooth, and somewhat sunken cicatricial areas and the apical margin with a recurved finely impressed line beginning near the apical angle and ending at the corresponding point on the other side, and with a transverse row of punctures immediately behind the apical margin, the straight, apically a little rounded, lateral margins with a very narrow percurrent smooth keel visible only from the side, the broadly rounded basal margin seen from behind very narrowly depressed. Scutellum broader than long, a little convex. Elytra with the costal margins parallel from the base to beyond middle of corium, then a little rounded but not ampliated; clavus with three rows of punctures, corium with two rows of punctures next to the claval suture and sparsely punctate in its exterior half, the apical margin shorter than the claval suture, straight, slightly sinuate in its interior part. Prosternum with a central, impressed, transverse line, which on the sides is curved forward, ending at the apical angles. Metapleura with the posterior border depressed, widened outward, the apical angle acute; orificia transverse, the opening small and round, callosely margined. Abdomen reaching a little beyond apical angle of corium. Fore femora unarmed, not incrassate. First joint of hind tarsi a little shorter than the others together.

Allied to *Pylorgus* Stål, but with much shorter bucculæ. The description of the latter genus is somewhat incomplete; but as Stål, in comparing his genus with *Ischnorhynchus,* does not mention that the head is much shorter and that the last joint of the antennæ and the first joint of the rostrum are much longer, we must infer that they are not constructed as in *Rhiophila.*

Type of the genus, *Rhiophila breviceps* sp. nov.

Rhiophila breviceps sp. nov.

Testaceous with a brownish tint, corium near the costal margin with three short fuscous streaks, one before, the two others side by side behind the middle, and with a few small fuscous spots in the disk, the apical angle brown, posterior angle of metapleura whitish, venter brown, rostrum brownish testaceous, antennæ and legs testaceous, base and a subapical annulation of second antennal joint and base of third black, fourth joint black with a subbasal testaceous annulation, a median ring to femora and apex of tarsi fuscous; above sparingly set with short erect pale hairs. Head above with a very short and fine pale sericeous pubescence, second antennal joint somewhat longer than first and slightly longer than third. Pronotum very thickly and finely punctate, scutellum and pleura less thickly so. Abdomen impunctate, beneath clothed with very tiny silvery scales, which on the sides are arranged in two longitudinal rows of small spots, fifth male ventral segment in the middle less than half the length of fourth, sixth a little shorter than the three preceding segments together.

Length, male, 2.6 millimeters, inclusive of membrane, 3.

LUZON, Laguna, Mount Banahao.

Viewed in profile this insect very much resembles a *Teracrius* in its general shape, but the abdomen is shorter.

Ninus insignis Stål.

Ninus insignis STÅL, Freg. Eug. Resa, Ins. (1859), 253, Pl. III, fig. 5.

LUZON, Laguna, Los Baños and Mount Maquiling.

This species was hitherto known only from Guam, but it is widely distributed; some of the specimens before me agree perfectly with the description of the Fijian *N. stylatus* Kirk., which is certainly a synonym, and *N. singalensis* Bredd. differs in no essential points and is apparently the same species. It is stated by Muir to be common on sugar cane in the Fiji Islands and will probably be found in many places in the Austro-Malayan Region if searched for on *Saccharum* and allied Gramineæ; yet Matsumura[6] did not find it in Formosa among the 125 species of insects he states to be injurious to sugar cane in that island.

The genus *Ninus* Stål, with its single species, had hitherto been unknown to me and is apparently still unknown to Distant. The three species described by him as belonging to *Ninus*, as well as *N. sechellensis* Bergr. and *N. subsessilis* Kirk., appertain

[6] Die schädlichen und nützlichen Insekten vom Zuckerrohr Formosas. Tokyo (1910).

to *Cymoninus* Bredd., a genus quite distinct from *Ninus*. Distant and I have both been misled by Stål's inaccurate figure of the head of *Ninus*. In this figure the eyes are represented as sessile, whereas they really are, as Stål correctly says in the description, "valde prosilientes, stylati." Yet the ocular peduncle is much less distinct if the insect be looked at straight from above, because the peduncle is directed somewhat upward; if the head be viewed obliquely from above, the peduncle is very conspicuous. These two genera, in both of which the head is somewhat expanded laterally, are readily distinguished by the following characters:

Ninus: Head at least as broad as base of pronotum; eyes small, pedunculate, placed very obliquely, strongly converging forward, ocular peduncle directed obliquely outward, forward, and upward; ocelli much more distant from eyes than from each other; rostrum extended to intermediate coxæ, first joint reaching middle of prosternum.

Cymoninus: Head narrower than base of pronotum; eyes rather large, sessile, placed longitudinally, scarcely converging forward; ocelli scarcely or slightly more distant from eyes than from each other; rostrum extended to middle of mesosternum, first joint reaching base of head.

The genus *Cymoninus* is much more allied to *Neoninus* Dist. than to *Ninus*.

Cymoninus philippinus sp. nov.

Testaceous-brown, above sparingly, erectly pilose; head beneath and along the margins above, a streak on vertex between ocelli, three posteriorly more or less abbreviated vittæ to pronotum, a median vitta to scutellum, and sometimes propleura, pale cinereous or, rather, covered with a bloom of that color that in some specimens is more or less rubbed off, elytra hyaline, corium with pale testaceous veins, its extreme apical angle brown, claval commissure whitish ochraceous, membrane with a brown apical vitta, abdomen above with a median fuscous vitta, beneath pale testaceous with a sublateral fuscous vitta; antennæ, rostrum (except the piceous apical joint), and legs testaceous. Head with the postocular part shorter than the eyes, first antennal joint also shorter than eyes, third joint distinctly shorter than second and fourth, which are almost equal in length, last three rostral joints of subequal length, each shorter than first. Pronotum, scutellum, and pleura finely and thickly punctulate, the lateral margins of the somewhat transverse pronotum a little roundedly prominent between middle

and apical angles. Corium with a row of fine punctures along the veins, the exterior half, moreover, with an extremely fine colorless puncturation, costal margin fimbriated with pale hairs near the base. Abdomen beneath with a fine and short recumbent pilosity, vagina of female reaching middle of venter.

Length, male, 2.7 millimeters, inclusive of membrane, 3; female, 3, inclusive of membrane, 3.5.

LUZON, Laguna, Los Baños.

Allied to *C. subunicolor* Bredd., but the form, sculpture, and color of the pronotum are different and the venter is marked on each side with a dark vitta.

Cymus tabidus Stål.

Cymus tabidus STÅL, Enum. Hem. (1874), 4, 126.

LUZON, Laguna, Los Baños and Mount Maquiling.

Cymus vulturnus Kirk. differs only by somewhat larger size and cannot, I think, be separated from it. The species is distributed from Queensland to tropical Africa, but had not before been recorded from the Philippines. The character given by Stål, "jugis apice distincte acute prominulis," is not distinct in all specimens.

Cymus sulcicollis sp. nov.

Oblong-elliptical, pale testaceous, head and apical margin of corium pale brownish, membrane hyaline, often with a brownish apical vitta, last antennal joint brown, rostrum beneath and at apex piceous; excluding abdomen finely and thickly punctulate, less finely and more seriately so on corium and clavus. Head broader than long, a suppositional line drawn from outer margin of eye to apex of clypeus forming an acute angle with a corresponding line on the other side, first joint of antennæ very conspicuously passing apex of head, second joint not quite twice longer than first and slightly shorter than third, fourth somewhat shorter than second. Pronotum a little broader than long, on each side with a furrow within and parallel to the straight lateral margin, and in the middle of its apical half with a ridge terminated on each side by a furrow. Scutellum with a median ridge not quite reaching the base. Commissure of clavus more than one-half longer than scutellum. Vagina of female reaching distinctly beyond middle of venter.

Length, male, 3 millimeters, inclusive of membrane, 3.3; female, 3.5, inclusive of membrane, 3.8.

LUZON, Laguna, Los Baños and Mount Maquiling.

Somewhat related to *C. aurescens* Dist., but very distinct in

having the first antennal joint produced beyond the apex of the head, in the sculpture of the pronotum, and in the coloration.

MALCINÆ

Malcus flavidipes Stål.

Malcus flavidipes STÅL, Freg. Eug. Resa, Ins. (1859), 242, Pl. III, fig. 2; BANKS, Phil. Journ. Sci., Sec. A (1909), 4, 573; HORVÁTH, Ann. Mus. Nat. Hung. (1914), 12, 636.

LUZON, Benguet, Baguio.

This species was first reported from the Philippines by C. S. Banks, who collected it at Montalban, near Manila, and also recorded it from Palawan.

BLISSINÆ

Macropes philippinensis Distant.

Macropes philippinensis DISTANT, Rec. Ind. Mus. (1909), 3, 165, Pl. XI, fig. 7.

LUZON, Laguna, Los Baños and Mount Maquiling.

In both sexes of this species the greatest width of the pronotum is before the middle. The first two antennal joints and the tarsi are often darker than in Distant's type, and the second antennal joint is sometimes only as long as the third. The mesosternum has a percurrent median impression. The orificia are directed obliquely forward, slightly curved, passing middle of metapleura. The venter of the male is, as in the males of the other species, subcarinate in the middle. The front femora, in the male, are still more incrassate than in the female; but they are somewhat variable in shape, being broadly pyriform or sometimes subrectangular in outline, while in the female they are subtriangular. The hind femora are armed beneath with a few very small spinules. Distant's figure of the species is very good.

Macropes lacertosus sp. nov.

Black, including antennæ, rostrum, and legs; tarsi usually and venter, first antennal joint, and apex of femora sometimes paler. Elytra with the following white markings: A streak in apical half of clavus, a costal spot before middle of corium (not quite reaching its interior margin but outwardly extended into the epipleura), interior margin of corium (except near base), an oblong spot at exterior basal angle of membrane, a similar spot opposite at the interior margin, a smaller spot before middle of membrane, a very small spot at its interior basal angle (rarely, linearly, somewhat produced along the interior margin), and usually also apical border of membrane. Antennæ somewhat

shorter than head and pronotum together, first joint a little passing apex of head, second and third joints gradually somewhat incrassated from base to apex, subequal in length or third slightly shorter, fourth much longer than third. Rostrum reaching fore coxæ. Pronotum in the male with the greatest width before the middle and with the lateral margins more or less strongly rounded except near base, where they are straight and subparallel, in the female with the greatest width behind the middle, subparallel from base to middle, then rather strongly narrowed (but scarcely rounded) to apex, in both sexes impunctate, finely palely pubescent, the transverse impression alutaceous, the anterior lobe in the middle with two fine impressed longitudinal lines placed very near each other, the basal margin broadly but not deeply sinuate. Scutellum with a smooth median keel in the apical half. Elytra usually reaching base of last dorsal segment, sometimes a little shorter. Mesosternum convex, without a median impression. Orificia straight, directed a little obliquely forward, reaching middle of metapleura. Abdomen alutaceous, fourth ventral segment of female extremely short in the middle. Front femora in the male more incrassated and more spinous beneath than in the female; hind femora sometimes obsoletely spinous beneath.

Length, male and female, 5.6 to 7 millimeters.

LUZON, Laguna, Los Baños and Mount Maquiling.

Readily recognized by the structure and the sculpture of the pronotum and the distinct, well-defined white markings of the black elytra.

Pirkimerus parviceps sp. nov.

Narrow, linear, shining, piceous-black; basal border of pronotum often dark testaceous, elytra opaque, dark brown with blackish veins; commissure of clavus, an oblong subbasal costal spot to corium, an oblong spot at exterior basal angle of membrane, and a similar more or less distinct spot opposite at interior margin of membrane luteous; antennæ (except the fuscous apical joint), rostrum, and front legs testaceous, middle legs brownish testaceous, hind legs piceous. Head smooth, longer than broad, as broad as half the basal width of pronotum, eyes moderately prominent, seen from above much longer than broad, ocelli subcontiguous to eyes, antennæ as long as head and half the pronotum together, first joint linear, slightly passing apex of head, second and third somewhat incrassated from base to apex, subequal in length, each distinctly longer than first, fourth as long as first and second together and thicker than the others,

rostrum reaching fore coxæ. Pronotum one-half longer than broad, anterior lobe smooth but with an impressed percurrent median line, posterior lobe somewhat depressed, finely rugulose. Elytra reaching base of last dorsal segment. Abdomen very finely rugulose, shortly pilose. Hind femora not thicker than fore femora, beneath in the middle with two or three small spines; all tibiæ very shortly pilose; tarsi as long as femora, first joint incrassate, very shortly pubescent, in the fore and middle legs a little shorter than the tibia, in the hind legs as long as the tibia.

Length, male, 3.7 to 4.3 millimeters.

LUZON, Laguna, Los Baños and Mount Maquiling.

Rather similar in color to *P. sesquipedalis* Dist., but much smaller and differing by smaller and narrower head, narrower and more elongate eyes, ocelli subcontiguous to eyes, medially sulcated anterior pronotal lobe, finely rugulose (not coarsely punctate) posterior pronotal lobe, less thickened and less spinous hind femora, and less bristly hind tibiæ.

This genus was previously known only from Burma and the Andaman Islands.

Genus **RHABDOMORPHUS** novum

Body narrow, parallel-sided, about seven times longer than broad, distance from base of pronotum to apex of abdomen four times longer than head and pronotum together. Head about as long as broad, postocular part very short, but the eyes not quite touching anterior margin of thorax, antennæ with the first joint short but passing apex of head, fourth joint much the longest, rostrum rather short, first joint not reaching base of head, second equal to first, third slightly shorter, as long as fourth. Pronotum a little longer than broad, subparallel from base to middle, then narrowing toward apex, basal margin sinuate. Scutellum a little longer than broad, with a median carina not quite reaching base. Elytra not nearly reaching apex of abdomen, but with fully developed membrane, clavus and corium impunctate, but the radial vein bordered on each side by a row of punctures placed very close to the vein and therefore difficult to see; apical angle of corium very acute, its apical margin straight, as long as the claval suture, the two interior veins of the membrane united behind the middle, then continued as a single vein and joining the apex of the median vein forming a loop, the two exterior veins simple, but starting from the same point. Fore acetabula removed from base of prosternum, closed behind. Mesosternum with the xyphal area separated from the disk by

a transverse impression and with a median longitudinal impressed line reaching the transverse impression. Metasternum as long as mesosternum, orificia short, a little curved, directed outward. Venter at least twice longer than pectus. Middle legs a little separated. Front femora incrassate, spinulous beneath in the apical half; all tibiæ shorter than the femora; all tarsi as long as the tibiæ, first joint incrassate, subequal to the combined lengths of the other two.

Differs from the allied genera *Macropes* Motsch. and *Ischnodemus* Fieb. by the narrower body, the transversally placed orificia, the narrower scutellum, the venation of the membrane, the much longer abdomen, and the structure of the legs; from *Ischnodemus* also by the much shorter postocular part of the head.

Type of the genus, *Rhabdomorphus longurio* sp. nov.

Rhabdomorphus longurio sp. nov.

Black, basal border of pronotum pitchy testaceous, clavus and corium (including epipleura) pale lucid, membrane grayish white with black veins, abdomen (except last segment) brownish red, rostrum and legs testaceous; clothed with an extremely short and fine sericeous whitish pubescence, very sparingly so on the corium; basal border of pronotum and disk of mesosternum glabrous. Head finely rugulose, eyes rather small, moderately prominent, antennæ sublinear, a little shorter than head and pronotum together, second joint twice as long as first, third slightly shorter than second, fourth about as long as first and second united, rostrum reaching posterior margin of prosternum. Pronotum impunctate, the anterior half with a longitudinal median impression, the posterior half transversely rugulose, but with the basal border broadly levigate. Elytra extended somewhat beyond middle of antepenultimate dorsal segment, commissure of clavus shorter than scutellum. Abdomen very finely rugulose, disk of venter almost smooth, fifth ventral segment of female in the middle little more than one-third the length of fourth.

Length, female, 7 millimeters.

LUZON, Benguet, Baguio.

Genus **ANISOSOMA** novum

Body oblong-ovate. Head small, about as broad as long, distinctly broader than apex of pronotum, a little exserted, the lateral margins with a tubercle behind the eyes, clypeus passing apex of juga, ocelli more distant from each other than from

the moderately prominent eyes, antenniferous tubercles produced in an acute tooth, first joint of antennæ shortly oval, reaching apex of head, second a little longer than first, thickened from base to apex (the other joints wanting), bucculæ short and low, rostrum not quite reaching posterior margin of prosternum, first joint reaching anterior margin of eyes, second a little longer than first, third slightly shorter than first, fourth as long as second. Pronotum a little convex, without a distinct transverse impression, roundedly narrowing from base to apex, about three times broader at base than at apex, basal margin straight in front of scutellum, shortly sublobately produced over base of corium. Scutellum much broader than long, almost right-angled at apex, the disk with a T-shaped carination. Elytra much narrower than abdomen, corium and clavus impunctate excepting a row of punctures on each side of the veins, rimula straight, rather deeply impressed, forming an angle with the radial vein and ending a little behind middle of mesocorium, apical angle of corium narrowly rounded, apical margin obtuse-angularly sinuate in its interior portion, claval commissure as long as scutellum, membrane a little longer than corium, with five straight simple veins, the two inner ones joined a little before their common end. Front acetabula closed behind. Abdomen much broader than pronotum, oval with rounded sides, last dorsal segment about twice the length of the preceding segment, connexivum broad, its greatest part not covered by the elytra. Fore coxæ not nearly reaching posterior margin of prosternum; femora elongately subclavate, the fore and middle pair beneath near apex armed with a few very minute teeth; fore tibiæ slightly shorter than femora; first joint of hind tarsi as long as third, second extremely small.

Distinguished from all other genera of this subfamily by the broad oval abdomen; to be placed between *Ischnodemus* Fieb. and *Blissus* Klug, differing from the former by the sinuate apical margin of the corium, from the latter by the posteriorly closed fore acetabula.

Type of the genus, *Anisosoma lativentris* sp. nov.

Anisosoma lativentris sp. nov.

Black, disk of venter fuscous, elytra dingy grayish white, the punctures and veins of membrane a little darker, base of clavus a little infuscated, abdomen above and lateral borders of venter dingy ochraceous, rostrum (except the fuscous apical joint) and tarsi testaceous. Head half the length of pronotum, extremely finely punctate. Pronotum slightly broader than long, thickly

and finely punctate, lateral margins slightly sinuate in the middle. Elytra reaching somewhat beyond base of last tergal segment, corium a little beyond base of third connexival segment. Pectus finely punctate, more distinctly so on posterior part of propleura. Abdomen beneath very finely rugulose with an extremely short, deciduous, scaly, golden pubescence, fifth ventral segment of female four times longer at the sides than in the contracted middle, female genital segment somewhat shorter than sixth ventral segment.

Length, female, 4.5 millimeters.

LUZON, Laguna, Mount Maquiling.

PACHYGRONTHINÆ

Teracrius bipunctatus sp. nov.

Testaceous, thickly punctate with brown, corium and clavus much paler with concolorous puncturation, base of pronotum somewhat blackened in front of scutellum, interior basal angle of clavus and apical margin of corium in its interior half with a piceous dot, membrane hyaline; antennæ, rostrum, and legs testaceous, apex of second antennal joint, a superior vitta to front femora, and a subbasal and subapical annulation to all tibiæ fuscous; body beneath with a whitish sericeous pubescence. Head less than half the width of pronotum, eyes rather small but prominent, antenniferous tubercles with their exterior margins parallel, underside of head not tumescent, but with a slightly curved median transverse impression, last three antennal joints subequal in length or third slightly the shortest, rostrum reaching middle of mesosternum, first joint distinctly passing anterior margin of prostermum. Pronotum with a very narrow, slightly elevated median keel extended from the base to somewhat beyond the middle, the lateral margins almost straight. Scutellum broader than long, with a smooth median ridge not quite reaching the base. Elytra reaching apex of abdomen, apical margin of corium moderately sinuate in its interior part. Front femora strongly incrassated, two and one-half times longer than broad, front tibiæ a little curved.

Length, female, 3.5 millimeters.

LUZON, Laguna, Los Baños.

Allied to *T. burmanus* Dist., but smaller, differently colored, and with the rostrum and second antennal joint longer.

Pachygrontha cruenta sp. nov.

Tawny (including antennæ and legs), a narrow vitta within anterior part of pronotal lateral margins, a humeral spot, a

short apical streak to clavus, two anteriorly and posteriorly abbreviated vittæ to the hyaline membrane, a sublateral vitta to venter, and tarsi (except basal joint from base to near apex) fuscous; apical part of corium (beginning at the level of inner apical angle) sanguineous; a basal spot to scutellum, a spot at apical margin of corium a little before its middle, head beneath in the middle, median part of sterna, and vagina of female black; median basal part of venter pale ochraceous, rostrum pitchy testaceous, femora (especially the first pair) rather densely dotted with piceous; brown-punctured, but puncturation of corium almost concolorous and venter impunctate. Head broader than apex of pronotum, antennæ as long as body, first joint not quite so long as head, pronotum, and scutellum together, second at least one-fourth shorter than first, third about one-fourth shorter than second, fourth about half the length of third. Pronotum a little broader than long, without a distinct transverse impression, but with a fine longitudinal median keel reaching neither base nor apex, lateral margins straight. Scutellum with a semicircular, impunctate basal elevation, continued in a straight line to the apex. Corium with simple, nowhere callose, apical margin. Front femora with about four larger and several smaller spines.

Length, female, 6.7 millimeters.

MINDANAO, Davao.

Allied to *P. lewisi* Dist., but smaller, with shorter third antennal joint and quite differently colored pronotum and corium. According to the figure of Distant's species the apical angles of the last three abdominal segments are produced in a slender spine. No such spines are present in *cruenta* or any other *Pachygrontha* known to me, and they are not mentioned in Distant's description.

Pachygrontha bicornuta Banks [7] is identical with *P. miriformis* Bredd.[8]

OXYCARENINÆ

Oxycarenus lugubris Motsch.

Oxycarenus lugubris MOTSCHULSKY, Etud. Ent. (1859), 8, 108.

LUZON, Laguna, Los Baños.

This species has hitherto been recorded only from Ceylon, but *O. limbatipennis* Bredd., from Lombok, is evidently the same species. In Ceylon it has been stated by Green to infest the ripe bolls of the cotton, discoloring and caking the cotton. Several

[7] *This Journal, Sec. A* (1909), 4, 574, Pl. I, fig. 5.
[8] *Mitt. Nat. Mus. Hamburg* (1905), 22, 213.

other species of this genus are injurious to cotton, especially *O. hyalinipennis* Costa (*laetus* Kirby), which is widely spread in tropical Africa and Asia. Some of them seem to be spreading, more and more, probably being transported by trading vessels. I have received the Indian *O. bicolor* Fieb., of which *O. heraldus* Dist. is a variety, from different places in Australia.

The white costal margin behind the large subbasal spot of the corium in *O. lugubris* is sometimes very indistinct; and the rostrum is variable in length, sometimes not reaching the base of the venter, but occasionally extending almost to its middle.

Horváth has rightly united the genus *Maruthas* Dist. with *Oxycarenus* Fieb. As in so many similar cases Distant maintains the separateness of his genus, referring to the "structural differences" pointed out in his description. These differences are said to be "the length of the rostrum, the spinous anterior femora and the membrane not reaching addominal apex." As *Oxycarenus* is a well-known genus described by several authors, including Distant himself, it is curious that he is unaware that the anterior femora are spinous in all species of *Oxycarenus;* that the rostrum, as pointed out by Stål, sometimes even reaches the apex of the abdomen; and that the membrane does not quite reach the abdominal apex, and cannot be relied on even as a specific character.

Oxycarenus bicoloratus new name.

For the New Caledonian *O.* (*M.*) *bicolor* Dist., the name of which is preoccupied, I propose the name *Oxycarenus bicoloratus.*

(To be concluded.)

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